

## REMARKS

### I. Summary of the Examiner's Action

#### A. Objections

##### 1. In the Claims

The Examiner objected to claims 1 – 2, 7, 18, 22 – 23, and 26 – 27 because of certain informalities.

#### B. Claim Rejections

On page 3, lines 12 – 15 of the Office Action, the Examiner rejected claims 1 – 11, 23, 26, and 27 under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,240,460 B1 issued to Mitsutake *et al.* (hereinafter “the Mitsutake patent”) in view of United States Patent No. 5,890,134 issued to Fox (hereinafter “the Fox patent”) and further in view of United States Patent No. 5,907,556 issued to Hisanaga *et al.* (hereinafter “the Hisanaga patent”).

On page 8, lines 5 – 8 of the Office Action, the Examiner rejected claims 12 – 17 and 25 under 35 U.S.C. 103(a) as being unpatentable over the Mitsutake patent in view of the Fox and Hisanaga patents, and further in view of United States Patent No. 5,819,094 to Sato *et al.* (hereinafter “the Sato patent”).

On page 9, lines 15 – 18 of the Office Action, the Examiner rejected claims 18 – 19 under 35 U.S.C. 103(a) as being unpatentable over the Mitsutake patent in view of the Fox and Hisanaga patents, and further in view of United States Patent No. 6,502,062 B1 to Acharya *et al.* (hereinafter “the Acharya patent”).

On page 10, lines 16 – 20 of the Office Action, the Examiner rejected claims 20 – 21 under 35 U.S.C. 103(a) as being unpatentable over the Mitsutake patent in view of the Fox and Hisanaga patents, and further in view of the Acharya and Sato patents.

On page 11, lines 17 – 20 of the Office Action, the Examiner rejected claims 22 and 24 under 35 U.S.C. 103(a) as being unpatentable over the Mitsutake patent in view of the Fox and Hisanaga patents, and further in view of United States Patent No. 5,581,369 to Righter *et al.* (hereinafter “the Righter patent”).

## II. Applicants’ Response – Objections

### A. In the Claims

Applicants have amended claims 1 – 2, 7, 18, 22 – 23, and 26 – 27 to correct the informalities identified by the Examiner.

## III. Applicants’ Response – Claim Rejections

### A. Rejection of Claims 1 – 11, 23 and 27 – 27 under 35 U.S.C. § 103(a)

The Examiner has failed to adequately set forth a *prima facie* case of obviousness. In each instance where the Examiner has combined references he has relied upon a boiler-plate like formulation stating, *e.g.*, that it would have been obvious “to take into account system time as taught by Hisanaga in order to obtain high efficiency of use of transmission bandwidth.” May 6, 2004 Office Action, Page 6, lines 3 – 4. This is not nearly enough; Applicants respectfully request that the Examiner describe in detail the subject matter that is being combined, and exactly how the combination is obvious.

In fact, Applicants suspect that the references were chosen not on their respective teaching, but whether they used specific claim terminology, located apparently by using Boolean search operators. Once a reference was located with the specific claim terminology, the Examiner made the combination with a few boilerplate statements to tie the references together. The Examiner now expects the Applicants to explain why the combination does not disclose the claimed subject matter of Applicants' invention. Applicants observe that the Examiner has effectively turned the prosecution process on its head; it is the Examiner's obligation in the first instance to set forth a *prima facie* case of obviousness including a detailed explanation for making the combination.

Regarding the substance of the rejection, in applying Mitsutake to claim 1, the Examiner has not applied the subject matter disclosed in Mitsutake in the manner taught by Mitsutake; rather, the Examiner has selectively chosen portions of the specification and combined them in a way not taught by the reference. For example, the portion at Column 1, lines 23 – 29 relied upon by the Examiner is background material; the portion at Column 3, lines 30 -34 relied upon by the Examiner is a description of a feature of the prior art; the portion at Column 10, line 37 describes one embodiment of Mitsutake's purported invention; the portion at Column 20, lines 31 – 49 describes a different aspect of Mitsutake's invention.

In applying Mitsutake in this manner, not only does the Examiner not apply the reference as a whole as required by the MPEP; but the Examiner also uses applicants' own teaching to combine unrelated elements of Mitsutake's disclosure in a classic example of improper hindsight.

Further with respect to the Mitsutake patent, the portions relied upon by the Examiner in rejecting certain aspects of claim 1 simply do not disclose the subject matter claimed by the Examiner. For example, the Examiner relies on a portion of the Mitsutake reference that discusses the *scheduling* of print jobs to claim that a portion of Applicants' claim relating to *dispatching* is described:

In a very fast print service of high resolution color images, the print required time per page is short and constant as about one second. On the other hand, the data amount of each page printed out has a wide range of several tens of kilobytes to 100 megabytes per page and the time required for image processing also varies drastically from zero to several tens of seconds per page. Thus the processing time of each page needs to be averaged and matched with the printer output speed by *scheduling* the print-out order among print jobs and the image processing order of pages in a single print job. However, even if a giant print spool capacity reaching no less than tens of gigabytes is provided, it becomes as much as a capacity for several hundred pages in terms of pages of the maximum data size or several jobs in terms of job; it is difficult to expect the averaging effect. Thus the data transmission time of print jobs not arriving at the spool needs also to be contained in calculation for *scheduling*.

Mitsutake, Column 29, lines 1 – 18. (emphasis added) In applying this portion of the Mitsutake patent the Examiner claimed to find:

a *dispatching* process that determines an available space on or more of the network buffers and the dispatching process taking a minimum value of the available space and the quantity of the respective portion, the dispatching process writing the minimum value of the respective portion

to one or more of the network buffers (col. 29, lines 1 – 18; by taking the average of each page to be printed, the examiner interprets that this is the minimum value of available space on the network buffer and by scheduling the print-out order of the job on the printer as writing it to the network buffer).

May 6, 2004 Office Action Page 4, lines 7 – 15. (emphasis added) The portion of the Mitsutake reference relied upon by the Examiner discusses scheduling problems encountered in situations where the actual printing of each page takes about the same time, but the buffering of images takes varying amounts of time. It is not seen how these scheduling issues either describe or suggest the operation of a dispatching process as claimed:

a dispatching process that determines an available space on one or more of the network buffers and a current system time, the dispatching process determining if the system time is greater than or equal to one of the release times and the dispatching process taking a minimum value of the available space and the quantity of the respective portion, the dispatching process writing the minimum value of the respective portion of the one or more files to one or more of the network buffers . . .

Claim 1 (as amended). This portion of claim 1 simply is unconcerned with the scheduling of data transmission events which has already been managed by the scheduling process of Applicants' invention; rather, it concerns details associated with a dispatching process which assumes that the data transmission events have already been scheduled.

Continuing with respect to the Fox reference, Applicants respectfully submit that it would be improper to combine Fox with the Mitsutake patent in the manner of the Examiner, because the Fox patent is non-analogous art. In particular, the Fox patent concerns methods and heuristics for optimizing schedules used in managing complex manufacturing processes. There is no teaching in Fox that its iterative methods for optimizing schedules used for managing complex construction projects involving, *e.g.*, aircraft are either generally applicable to scheduling problems or particularly suitable for data transmission over a network. Further, although a time- and computer-resource-intensive method described in Fox may be acceptable in situations where the timeline for construction of, *e.g.*, an aircraft is many orders of magnitude greater than the time needed to optimize the schedule, this is not the case in resource-sensitive computer networks. Applicants respectfully request that the Examiner identify with particularity that portion of the Fox reference that teaches its schedule optimization methods are either generally applicable, or specifically applicable to the scheduling of data transmission over a network.

In addition, the cited portions of the Fox patent simply do not describe or suggest what the Examiner claims. In particular, the Examiner purportedly located the underlined portions of claim 1 (reproduced here) in Fox:

1. A computer network dispatcher comprising:  
one or more memories;  
one or more inputs for accessing one or more files from a database stored  
in the memory;  
one or more outputs to one or more respective network buffers;

one or more file lists, stored in one or more of the memories, identifying one or more of the files in the database that are to be transmitted over one or more networks connected to the respective network buffer;  
one or more schedulers that schedules one or more portions of one or more of the files to be written to the respective network buffers by defining transmission criteria about each of the files in the file list, one of the transmission criteria being a quantity to transmit criteria defining a quantity of one or more of the portions of the respective file to transmit and another of the transmission criteria being one or more release times being the time at which the respective portion is to be written to the network buffer;

\* \* \*

a feedback using a quantity completion measure to estimate a completion time of the writing of the respective portion to the respective network buffer, and the scheduler rescheduling one or more of the portions if one or more of the portions can not be scheduled to meet the respective transmission criteria.

In finding the underlined portions of claim 1 in the Fox reference, the Examiner stated:

Fox teaches one or more file lists, stored in one or more of the memories, identifying one or more of the files in the database that are to be transmitted over one or more networks connected to the respective network buffer (Col. 3, lines 34 – 46); one or more schedulers that schedules one or more portions of one or more of the files to be written to the respective network buffers by defining transmission criteria about each of the files in the file list (col. 3, lines 34 – 46); the scheduler rescheduling one or more of the portions if one or more of the portions can not be

scheduled to meet the respective transmission criteria (col. 3, lines 34 – 46).

May 6, 2004 Office Action, Page 5, Lines 3 – 10. (emphasis added)

The problem with the Examiner's rejection is that the underlined portions of claim 1 (and, for that matter, the underlined portions of the Examiner's rejection) simply appear nowhere in the portion of the Fox patent relied upon by the Examiner (reproduced here):

In the improved method, a multiple task schedule, initially formulated by the scheduling program, is subjected to the additional processing steps of: setting a completion time boundary that is as late or later than the latest completion time of any of the tasks; setting a start time boundary that is no later than the earliest start time of any of those tasks; preparing a chronological listing by completion time for the tasks, a sort, whereby the tasks are assembled in a different order than before; starting with the task having the latest completion time and continuing through the chronological listing in reverse chronological completion time order, "right shifting" each task in time, that is rescheduling each task in the chronological listing to a new completion time that is no later than and as close to the completion boundary time as is permissible without violation of any resource constraint, to create a first revised temporary listing of tasks arranged in the same order found in the chronological listing;

Fox, Column 3, lines 34 – 46. It is thus clear that most, if not all, of the subject matter relied upon by the Examiner in rejecting claim 1 over the Fox reference simply does not appear in the Fox reference. If the Examiner disagrees, Applicants respectfully request that the Examiner identify with particularity where in this portion of the Fox reference the emphasized portions of claim 1 appear either *in haec verba* or synonymously.



Finally with respect to claim 1, the Examiner claims that the Hisanaga patent teaches the concept of a system time being used in a dispatching process and relies upon a portion of Hisanaga that recites the following:

More specifically, it is for example, a time period wherein the data is read from the memory, forwarded to the element for sending the data to the network, and then actually sent. If the time period is sufficiently shorter than the time required for transmission and the influence over the efficiency of use of the bandwidth can be ignored, the sending process may be started at the notified time of completion of data transmission

Hisanaga, Column 5, line 65 – column 6, line 3. This portion of the Hisanaga reference makes no mention of the dispatch process occurring in dependence on a system time as in Applicants' invention, rather it states "that the sending process may be started at the notified time of completion of data transmission." Apparently, the sending process is initiated not in dependence on a system time, but when the system has been notified that another data transmission job has completed. This is the only clear meaning that can be assigned to this language.

For the foregoing reasons, Applicants respectfully submit that claim 1 is patentable over the references of record. Applicants respectfully request that the rejection of claim 1, and independent claims 23 and 26 – 27 which were rejected on grounds similar to claim 1, be withdrawn.

Applicants also submit that since claim 1 is patentable, all of the claims which depend from claim 1 are likewise patentable. Applicants nonetheless submit the

following remarks providing additional support for the patentability of claims depending from claim 1.

Regarding the rejection of claims 2 and 3, Applicants respectfully submit that the portion of the Fox patent relied upon by the Examiner (Column 3, lines 33 – 46) does not disclose details associated with the scheduling of data transmission. Applicants therefore respectfully request that the rejection of claims 2 and 3 be withdrawn.

Claim 7 recites, in part, “a network dispatcher . . . wherein the transmission criteria comprises at least a burst size and a burst rate and where the portion of one or more files is partitioned into quantities of size equal to the burst size and each quantity is written to the respective network buffer at a time interval equal to the burst rate.” (as amended) The portion of the Hisanaga patent relied upon by the Examiner in rejecting claim 7 is reproduced here:

The data transmission controlling information acquiring element 8 acquires necessary information among the pieces of data transmission controlling information exchanged between the data sending unit and the data receiving unit before/during each data transmission attempt. There are several kinds of data transmission controlling information acquired before data transmission attempt, for example, a sending unit identifier, a amount of data to be transmitted, a requested transmission rate, and so on. There are also some kinds of data transmission controlling information acquired during the data transmission, such as a requested transmission rate or the like.

Hisanaga, Column 9, lines 13 – 24. It is not seen how this portion of Hisanaga discloses the subject matter of claim 7; Applicants therefore respectfully request that the Examiner particularly point out where the subject matter of claim 7 is either described or suggested.

Claim 8 recites, in part, “a network dispatcher . . . where the file list further identifies one or more of the destination addresses of one or more recipients.” The portion of the Hisanaga patent relied upon by the Examiner in rejecting claim 8 is reproduced here:

A second embodiment of the system of data transmission is now described. If there are plural data receiving units 2 for a single transmission medium 4 which is shared, it is necessary to separate the data transmission controlling unit 3 from at least a part of the data receiving units 2 (that is, one of the data receiving units 2 may possess the function of the data transmission controlling unit 3.). This case is regarded as the second embodiment, and the construction thereof is shown in FIG. 9.

Hisanaga, Column 11, lines 17 – 20. Nowhere in this portion of Hisanaga is there disclosed a “file list [which] further identifies one or more of the destination addresses of one or more recipients.”

Claim 9 recites, in part, “a network dispatcher . . . where the file list further identifies one or more transmission types defining how the portion is sent over the network.” In rejecting claim 9, the Examiner has again relied upon a portion of the Mitsutake patent that is identified as a description of the prior art and has combined it with portions of the Mitsutake patent identified as Mitsutake’s invention. Thus, the combination made by the Examiner is not taught by the reference and, in fact, is another

example of improper hindsight wherein the interpretation of Mitsutake has been guided by Applicants' own teaching. Further, it is not seen where in the portion of Mitsutake relied upon by the Examiner the subject matter of claim 9 is either described or suggested.

The same reasoning applied to the impropriety of the rejection of claim 9 similarly applies to the rejection of claim 10.

Claim 11 recites, in part, a network dispatcher . . . where the quantity completion measure is any one or more of the following: an accumulated amount of one or more of the portions transmitted, and an amount of the portion transmitted." It is not seen where in the portion of the Mitsutake patent relied upon by the Examiner a "quantity completion measure" as recited and further refined in claim 11 is described or suggested.

For all of the foregoing reasons, Applicants respectfully request that the Examiner withdraw the rejection of claims 1 – 11, 23, and 26 – 27.

B. Rejection of Claims 12 – 17 and 25 under 35 U.S.C. § 103(a)

Claim 12 recites, in part, "a network dispatcher . . . where a time stamp is stored with the quantity completion measure in a history log". The Sato patent is not seen to describe or suggest this; rather Sato is concerned with providing

"an apparatus for log data collection and analysis that can utilize the part-to-part association between a source program and a history diagram indicative of the program operations.

\* \* \*

To accomplish the above objects, according to the present invention, there is provided an apparatus for log data collection and analysis which is used

for analyzing the behavior of a program. This apparatus comprises log data collecting means, log data storage means, log data analyzing means, diagram generating means, display means, and association analyzing means.

Sato, Column 2, lines 15 – 42. The Sato patent is not concerned with data transmission as in the case of Applicants' invention, rather it is concerned with the debugging of source programs. Thus, the portion in Sato at Column 5, lines 55 – 67 refers to data collection that occurs as a source program executes, and has nothing to do with the collection of data in a process involving data transmission over a network. Further, Applicants have reproduced the portion of Sato relied upon by the Examiner here:

FIG. 2 shows the data structure of the log file. Each log record 20, stored as an entry of the log file, is organized into three fields: a time stamp information field 21, a function identification field 22, and a caller address information field 23. The time stamp information field 21 records the time when the process enters and leaves each function that is called in the object program, which time is measured from the start time of the program execution. The function identification field 22 holds a number for identifying a function called by the object program. The caller address information field 23 "mainly" contains the address from which the function is called up. This address can be retrieved from the stack.

Sato, Column 5, lines 55 – 67. Applicants respectfully request that the Examiner identify where "quantity completion measure" appears either *in haec verba* or synonymously in this portion of the Sato patent. In addition, Applicants respectfully request that the Examiner identify with particularity what portion of the Sato patent describes or suggests

that its teaching is applicable to data transmission over a data network. If the Examiner cannot comply, Applicants respectfully request that the rejection of claim 12 be withdrawn.

Claim 13 recites, in part, “a network dispatcher . . . where the quantity completion measure is one or more statistics of the history log.” Since claim 13 concerns a “quantity completion measure” which refers to the amount of data actually transmitted, it is not seen where reference is made to “a quantity completion measure” in Sato at column 2, lines 36 – 42. Sato simply does not concern a network dispatcher performing a data transmission process.

Claim 14 recites, in part, “a network dispatcher . . . where the statistics include any one or more of the following: an average amount written and a change in amount written.” Column 2, lines 43 – 46 of Sato relied upon by the Examiner states that the “log data collecting means collects log records while the program is in execution, where each log record includes information regarding an operation type and execution time of each part of the program.” Applicants do not see where in this portion of Sato reference is made to the operation of a network dispatcher.

Regarding claim 15, Applicants respectfully submit that since claim 12 is patentable, claim 15, which depends from claim 12, is likewise patentable.

Claim 16 recites, in part, “a network dispatcher where one or more errors are stored in a history log.” Applicants respectfully submit that the Examiner selectively cropped a portion of Sato in rejecting claim 16, thereby eliminating the context of the

statement made in Sato. Applicants reproduce both the portion relied upon by the Examiner and the portion which immediately preceded it, here:

Second, the history diagram can be used for debugging of programs. Since all the function calls that have happened and their respective origins are shown in time sequence, the user can trace back the history of the program execution. This helps eliminating some kinds of errors that may lead to incorrect results or cause an abnormal termination of the program.

Sato, Column 9, lines 6 – 12. When reproduced in context, the portion relied upon by the Examiner has nothing to do with the logging of errors in the transmission of data as in the case of Applicants' invention.

Claim 17 recites, in part, "a network dispatcher . . . where the errors include any one or more of the following: a disk error, a network error, a destination not found error, and a destination not responding error." The portion of the Hisanaga patent relied upon by the Examiner in rejecting claim 17 is reproduced here:

"In the case where the data transmission is executed through the computer network, transmission errors generally occur. The data failed to be transmitted is normally recovered by retransmission. However, a time required for a single attempt of successful data transmission becomes longer by the time required for re-transmission (the time for re-transmitting the data and the time required for protocol processing between the sending unit and receiving unit for executing the re-transmission).

Hisanaga, Column 6, lines 20 – 29. Applicants do not see where the logging of transmission errors is disclosed in this portion of the Hisanaga patent. Since the Sato

patent neither describes nor suggests the existence of a network dispatcher that stores transmission errors in a history log, Applicants respectfully submit that the combination of the recited portion of the Hisanaga patent with the Sato patent fails to disclose the subject matter of claim 17.

Claim 25 recites, in part, “a method . . . further comprising the step of time stamping one or more of the quantity completion measures.” Since the Sato patent does not concern data transmission over a network (including the portion relied upon by the Examiner in rejecting claim 25) it is not seen how the subject matter of claim 25 is either described or suggested by the Sato reference.

For the foregoing reasons, Applicants respectfully request that the Examiner withdraw the rejection of claims 12 – 17 and 25.

C. Rejection of Claims 18 – 19 under 35 U.S.C. § 103(a)

Claim 18, in part, recites “a network dispatcher . . . further comprising a network use criteria table used by the scheduler to schedule the portions of one or more files.” (as amended) In rejecting claims 18 and 19, the Examiner relied upon FIGS. 6 and 7 of the Acharya patent stating it “would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of transmitting data with a scheduler for certain criteria as taught by Mitsutake in view of Fox in further view of Hisanaga to add a network use criteria table used by the scheduler to schedule the portions as taught by Acharya in order to improve scheduling methods that provide satisfactory performance.”

May 6, 2004 Office Action, page 10, lines 5 – 10.



The problem with this rejection is that tables depicted in FIGS. 6 and 7 are not used by a scheduler to schedule transmission of data over a network. Rather, they are simply summary tables that compare the performance of the scheduling algorithms disclosed in the Acharya patent with those of the prior art:

In order to measure the effectiveness of the minimum flow and minimum stretch dispatching algorithms as employed by a central server in a localized scheduling scheme, their performance can be compared to the load balancing algorithm of the prior art. FIG. 6 illustrates the performance of the load balancing (designated as "LdBal"), minimum flow and minimum stretch algorithms as employed by a central server that dispatches job requests to a plurality of local channel servers, wherein the local channel servers employ the MAX scheduling algorithm to schedule the servicing of job requests in their respective queues.

Acharya, Column 9, lines 40 – 50. The tables depicted in FIGS. 6 and 7 therefore are not used by any scheduling apparatus to schedule data transmission; rather, they depict the performance of various scheduling algorithms in a particular data transmission environment.

The same reasoning similarly applies to claim 19.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claims 18 and 19.

D. Rejection of Claims 20 – 21 under 35 U.S.C. § 103(a)

Claim 20 recites, in part, “a network dispatcher . . . where the network use criteria table has a plurality of records, each record containing a time stamp field and an amount

of network use field.” As stated previously with respect to the rejection of claims 18 and 19, FIGS. 6 and 7 of the Acharya patent do not disclose “a network use criteria table” as described and claimed by Applicants. Additionally, as stated previously with respect to the rejection of claims 12 – 17 and 25, the Sato patent does not disclose a logging process for recording the performance of a data transmission process over a network since the Sato patent is not concerned with data transmission over a network, but rather with debugging of source programs. In view of this circumstance, Applicants respectfully submit that since the Sato and Acharya patents do not disclose the subject matter relied upon by the Examiner in rejecting claims 20 and 21, Applicants respectfully request that the Examiner withdraw the rejection of these claims.

E. Rejection of Claims 22 and 24 under 35 U.S.C. § 103(a)

Claim 22 recites, in part, “a network dispatcher . . . further comprising a status indicator for sending one or more acknowledgements to one or more schedulers indicating one or more of the portions have been entirely transmitted over the network.” The Righter patent is not seen to disclose the claimed subject matter; rather, the Righter patent discloses LEDs that are used to indicate status to human users:

Also not shown in the figures are user controls and status indicators provided on the control unit 10. More particularly, the control unit 10 includes several LEDs that function as visual indicators and provide status information to the user. These include ready/receive, transmit, and error indicators. The ready/receive indicator, for example, operates as a power indicator by remaining illuminated when the control unit is on and indicates that data is being received by turning off during data transmissions between the recorder 12 and the control unit 10. Upon

completion of a data transmission (i.e., when the buffer memory is full), the ready/receive indicator blinks to signal to the user that the transmission is complete and the control unit 10 is ready to transmit the facsimile image over the telephone line. In a similar fashion, the transmit indicator illuminates while data is being transmitted between the control unit 10 and the phone line 15.

Righter, Column 5, lines 21 – 33. This portion of the Righter patent obviously is referring to the signaling of a human user with an LED. Claim 22 does not encompass a human user but rather a scheduler that is implemented in a computer system and thus would be neither described nor suggested by the portion of the Righter patent relied upon by the Examiner. In particular, when the claim terminology is read in light of the specification, it is clear that “scheduler” refers to computer apparatus and not a human user:

Block 130 is an optional scheduling server. This server 130 runs a scheduler process 134, an acceptance process 139, a delivery status process 137, and, optionally a billing process 136 and analysis process 138. The scheduler process 134 (and the optional scheduler process 128 of the dispatch server 120) schedules one or more portions of the files 112A in the mass storage file system 112 for transmission by the dispatch server via its network buffers 124A, 124B. The scheduler process 134 (128) does this by writing a transmission decision list 200 and a file list 300 in the memory 126 of the dispatch server 120. The file list 300 associates files 112A in the file system 112 with the network buffer 124A. The transmission decision list 200 provides transmission criteria 250 (e.g. pacing, timing, and portioning information about the transmission of the files 112A.

Application, Page 9, line 15 – page 10, line 2. Applicants therefore respectfully request that the Examiner withdraw the rejection of claims 22 and 24.

IV. Applicants' Response – New Claims

Applicants also have added new claims 28 and 29. The subject matter of these claims finds support at page 26 of the specification. Applicants respectfully submit that the subject matter of claims 28 and 29 are neither described nor suggested by the references of record, whether taken singly or in combination.

V. Conclusion

The Applicants submit that in light of the foregoing amendments and remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

July 30, 2004  
Date

David M. O'Neill (35,304)

David M. O'Neill (Reg. No. 35,304)  
Customer No.: 29683  
HARRINGTON & SMITH, LLP  
4 Research Drive  
Shelton, CT 06484-6212  
Telephone: (203)925-9400  
Facsimile: (203)944-0245  
email: [DOneill@hspatent.com](mailto:DOneill@hspatent.com)

---

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. 1450, Alexandria, VA 22313-1450 on the date indicated.

7/30/04  
Date

Ann O'Brien-Towle  
Name of Person Making Deposit